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PENSOFT

Propicimex tucmatiani (Wygodzinsky, 1951) (Hemiptera, Cimicidae, Cimicinae): a new bat ectoparasite for the Corrientes province, Argentina

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Abstract

The literature cites 4 species of bat-parasiting Cimicidae in Argentina: *Cimex lectularius* Linnaeus, 1758, *Propicimex tucmatiani* (Wygodzinsky 1951) (both Cimicinae), *Latrocimex spectans* (Lent 1941) (Latrocimicinae), and *Bucimex chilensis* Usinger 1963 (Primicimicinae), all with few known records. *Propicimex tucmatiani* has formerly been cited in the provinces of Buenos Aires, Salta, Santiago del Estero, and Tucuman. Data presented in this work extends its distribution into the province of Corrientes, approximately 850 km north of the last recorded finding in Buenos Aires.

Key words

Ectoparasites; Chiroptera; Cimicidae; *Propicimex*; Argentina.

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Introduction

The superfamily Cimicoidea in Argentina is composed of the families Anthocoridae, Cimicidae, and Polyctenidae (Wygodzinsky 1951, 1959a, 1959b, Ronderos 1961a, 1961b, 1962a, 1962b, Usinger 1966, Autino et al. 2009, Iorio 2012, Carpintero 2014, Claps and Autino 2014, Autino et al. 2016). Most Cimicidae have a preferred host, but will accept others when required, like *C. lectularius* and *C. hemipterus* (Fabricius 1803), which are found most frequently on humans, but can survive by feeding on birds, bats, rabbits, and rats. The literature cites 4 species of Cimicidae on bats in Argentina: *C. lectularius* (Cimicinae), *Propicimex tucmatiani* (Wygodzinsky 1951) (Cimicinae), *Latrocimex spectans* (Lent 1941) (Latrocimicinae) (Wygodzinsky 1951, Ronderos 1961a, Autino et al. 2009, Iorio 2012, Carpintero 2014), and *Bucimex chilensis* Usinger, 1963 (Primicimicinae). This last one was found parasitizing *Myotis aelleni* Baud 1979 of Chubut (El Hoyo de Epuyén) (Koch and Aellen 1987).

Methods

Propicimex tucmatiani (Figs 2–5) was collected from the host bat *Molossus molossus* (Pallas, 1766) (Molossidae) (Figs 6, 7) captured on the campus "Deodoro Roca" of the

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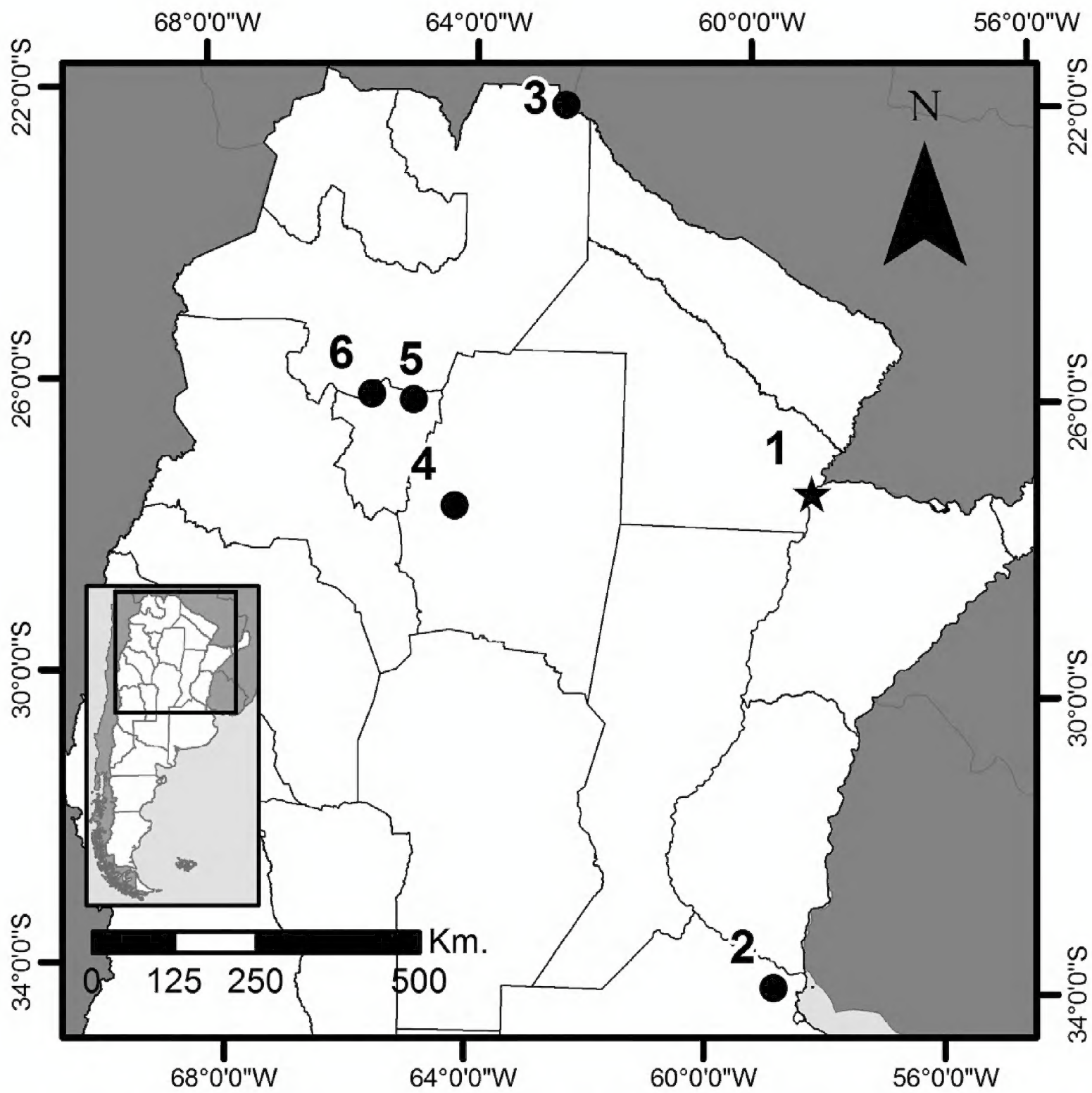


Figure 1. (*P. tucmatiani* distribution map in Argentina**): 1.** Corrientes: Department Capital, Campus "Deodoro Roca" of the Universidad Nacional de Nordeste (UNNE). **2.** Buenos Aires: District of Campana, Otamendi, Estacion INTA. **3.** Salta: Department Rivadavia: Santa Victoria Este. **4.** Santiago del Estero: no locality specified (the dot marks the capital). **5.** Tucumán: Department Burruyacú: Los Chorrillos. **6.** Tucumán: Department Trancas: Tacanas.

Universidad Nacional del Nordeste (UNNE), Corrientes, Argentina. The bat individual was found living in a mixed colony with specimens of *Eumops patagonicus* Thomas 1924, also a Molossidae bat. The colony was located in the roof space of one of the restrooms, in proximity of the Facultad de Ciencias Exactas y Naturales y Agrimensura, an area characterized by high levels of urbanization. The host was manually extracted, using leather gloves, and identified according to Díaz et al. 2016. The ectoparasite was extracted from the fur using entomological forceps and subsequently preserved in 70% ethylic alcohol. The taxonomic identification of *P. tucmatiani* was carried out using characters by Wygodzinsky 1951 and Carpintero 2014. The photographs were obtained using a Canon T3i camera adapted to a stereoscopic microscope LEICA EZ4.

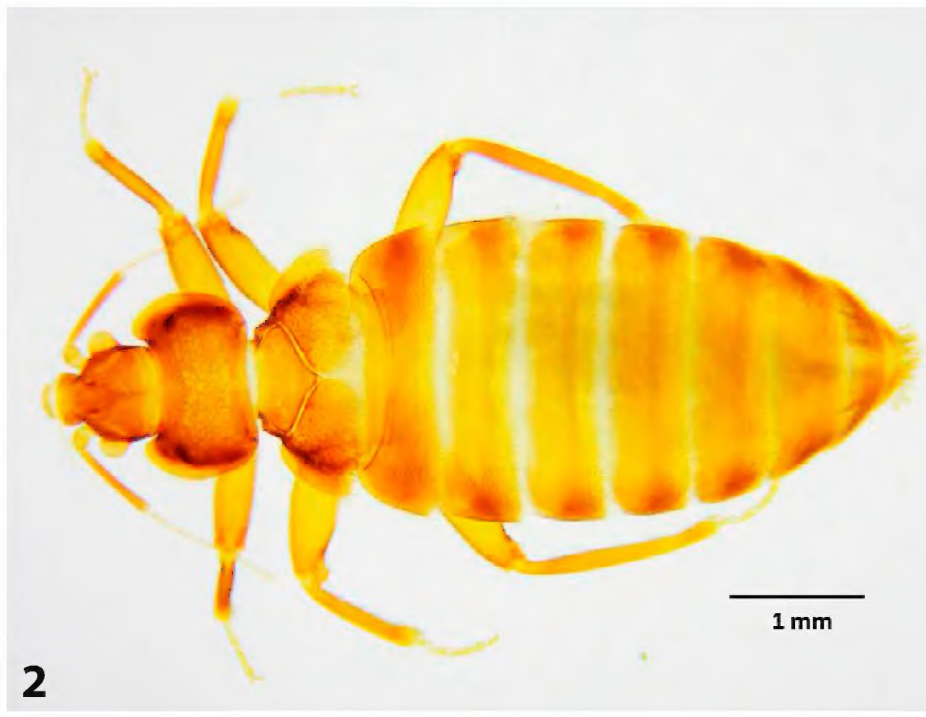
Results

Order Hemiptera
Family Cimicidae
Subfamily Cimicinae

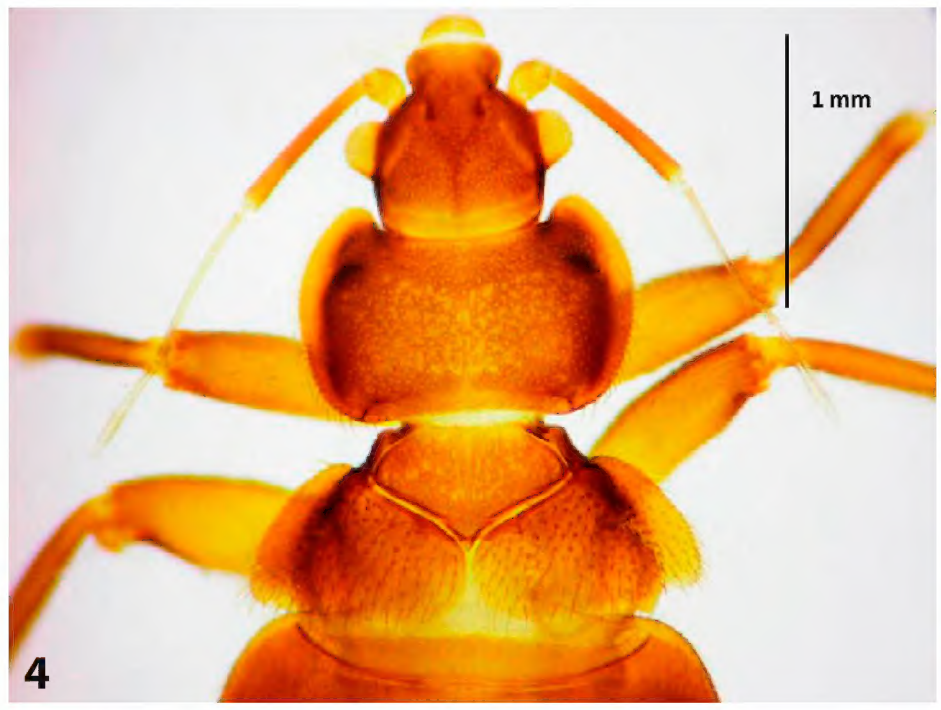
Propicimex tucmatiani (Wygodzinsky 1951): Figs 2–5.
Cimex tucmatiani Wygodzinsky 1951: 186.
Propicimex tucmatiani Usinger 1966: 306–308

New records. Corrientes: Department Capital, campus "Deodoro Roca" of the Universidad Nacional del Nordeste (UNNE), Avenida Libertad 5470 (27°28′14″ S, 058°46′57″ W): 1 female (Cartruonne 8425) collected on a female *Molossus molossus* (released), 18-V-2016 (Figs 6, 7).

Previous records (Fig. 1) and hosts in Argentina. Buenos Aires: District of Campana: Otamendi, Estación INTA Delta (34°14′03″ S, 058°53′10″ W), found on a *Tadarida brasilienis* (I. Geoffroy) in a bat-roosting hollow in the wall of a roof in an abandoned house (Di Iorio 2012). SALTA: Department Rivadavia, Santa Victoria Este (22°16′00″ S, 062°42′00″ W) found on a *Molossus major crassicaudatus* Geoffroy 1805 (= *M. molossus* Barquez, 2006). On deposit at the Museo de La Plata, Buenos Aires, Argentina is a specimen labeled as the male allotype (No. 1563/2) that was incorrectly described (Ronderos 1961a) after the original description of the species. Santiago del



Figures 2, 3. *Propicimex tucmatiani* (Wygodzinsky, 1951) (Cimicidae, Cimicinae) found on *M. molossus* female. **2.** Dorsal view. **3.** Ventral view. Photographs by I.M.D. Di Benedetto and C.A.González.



Figures 2–5. *Propicimex tucmatiani* (Wygodzinsky, 1951) (Cimicidae, Cimicinae) found on *M. molossus* female. **2.** Dorsal view. **3.** Ventral view. **4.** Dorsal view of the anterior portion. **5.** Ventral view of the posterior portion. Photographs by I.M.D. Di Benedetto and C.A.González.

Estero: No specified location or bat species (Usinger 1966). Tucumán: Department Burruyacú, "El Chorrillo" (= Los Chorrillos) (26°21′00″ S, 064°55′0″ W) found on a *Myotis nigricans nigricans* Schinz 1821. The female holotype (Wygodzinsky 1951a) was found in this locality, and is on deposit at the Museo de La Plata (No. 1563/1). Department Trancas: Las Tacanas (26°16′16.49″ S, 065°32′57.69″ W) found on a *Tadarida brasiliensis* or *Myotis* sp. (the species was not reliably identified) (Wygodzinsky 1959a).

The female holotype is on deposit at La Plata, Buenos Aires, Argentina. Coscarón (1996) made the following comments regarding the type material: on the holotype M.L.P No. 1563/1 the collection date says 31-XII-1948, instead of 31-XII-1949, the date of the original description of the species (Wygodzinsky 1951); in the same work it is stated that the holotype was deposited at the Instituto de Medicina Regional IMR 777, even though, evidently, at some point it was transferred to the Museo de La Plata. On deposit in the same museum is another specimen that was erroneously designated as the allotype ten years after the description of the holotype. In relation to this specimen M.L.P No. 1563/2, Coscarón (1996) commented that the collection date on the material is VI-1960 instead of 5-VIII-1960, the date noted in the original description (Ronderos 1961a) and that it was deposited in the Coleccion del Departamento de Entomologia Sanitaria (INM 4876). Similar to the holotype, it appears to have at some point been transferred and placed on deposit at the Museo de La Plata. Ronderos (1961a) references this male specimen as collected on a host bat from the Vespertilionidae

Figures 6. *Molossus molossus* female (Chiroptera, Molossidae), host of *P. tucmatiani*. Photograph by M.A. Argoitia.

Figure 7. View of part of the colony in the roof space of one of the restrooms on the University Campus. Photograph by M.A. Argoitia.

family, which is an error as the *Molossus molossus* is a Molosside.

Discussion

Outside of Argentina, *P. tucmatiani* has been cited in Brazil (Santa Catarina, Nova Teutonia) without a specified host or location (Di Iorio 2012) and in Paraguay (Concepción, 20 km southeast of Estancia Estrellas) (Kock and Aellen 1987) on *Molossus molossus*. In Argentina, *P. tucmatiani* was previously found in 4 provinces: 3 in the northwest (Salta, Santiago del Estero, and Tucumán) and 1 in the southeast (Buenos Aires). Now it is found in a fifth province, Corrientes. Localities with records of this species are also scarce, including only 2 in Tucumán, and 1 in each of Santiago del Estero, Salta, Buenos Aires, and Corrientes. The Cimicidae ectoparasites of Chiroptera in Argentina have few citations, and this work represents the first record for *P. tucmatiani* in Corrientes province, increasing their distribution approximately 850 km north from their known distribution in northern Buenos Aires province (Di Iorio 2012). Few of the *P. tucmatiani* hosts are known and those that are belong primarily to the Molossidae family and secondarily to the Vespertilionidae. As this ectoparasite has very limited location and host records, we believe further intensive studies are necessary to better document its distribution and amplify the range of hosts that are parasitized by the species.

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Authors' Contributions

IMDDB and AGA wrote the text and conducted ectoparasite identifications. MMA collected the data and conducted bat identifications. IMDDB and CAG took the photographs and created the *P. tucmatiani* distribution map.

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